

**CLAIMS**

1. An angular-position magnetic-sensor device provided with at least one stator (1, 2) and one rotor (3), the space between the said stator (1, 2) and the said rotor (3) defining over substantially  $360^\circ$  a main air gap (4) in which there move at least two magnetic poles (5, 6) of alternating polarities, the said stator (1, 2) being provided with at least one secondary air gap (7, 8) in which there is placed at least one magnetosensitive element (9), characterized in that the said stator (1, 2) is composed of two pole shoes (1 and 2) having angular widths that are substantially equal to  $120^\circ$  and  $240^\circ$  respectively, and in that the two magnetic poles (5, 6) each have an angular width substantially equal to  $120^\circ$ .

2. An angular-position magnetic-sensor device according to claim 1, characterized in that the rotor (3) is situated in the interior of the stator (1, 2).

3. An angular-position magnetic-sensor device according to claim 1, characterized in that the rotor (11) is situated on the exterior of the stator (12, 13).

4. An angular-position magnetic-sensor device according to claim 1, characterized in that the aforesaid two magnetic poles (5, 6) are radially magnetized adjacent magnets.

5. An angular-position magnetic-sensor device according to claim 1, characterized in that the sides of the said secondary air gap (7, 8) are oriented radially, or in other words "in the form of radial slits".

6. An angular-position magnetic-sensor device according to claim 1, characterized in that the sides of the said secondary air gap (7, 8) are oriented in the same direction, or in other words "in the form of straight slits".

7. An angular-position magnetic-sensor device according to claim 5 or 6, characterized in that the sides of the said secondary air gap (7, 8) are mutually parallel.

8. An angular-position magnetic-sensor device according to claim 1, characterized in that at least one of the said magnetic poles (5, 6) is made of a soft ferromagnetic material.

9. An angular-position magnetic-sensor device according to claim 1, characterized in that at least one of the magnetic poles (5, 6) is glued to the rotor (3).

10. An angular-position magnetic-sensor device according to claim 1, characterized in that at least one of the magnetic poles (5, 6) is an integral part of the rotor (3).

11. An angular-position magnetic-sensor device according to claim 1, characterized in that the rotor (15) and the stator (1, 2) are disposed axially, or in other words along the same linear axis.

12. An angular-position magnetic-sensor device according to claim 11, characterized in that the said magnetic poles (5, 6) are adjacent disc-shaped magnets that are magnetized axially, or in other words along the same linear axis.

13. An angular-position magnetic-sensor device according to claim 1, characterized in that the rotor (16, 17) comprises at least two axially separate parts (16 and 17).

14. An angular-position magnetic-sensor device according to claim 13, characterized in that the two parts (16, 17) forming the rotor are separated by an axially magnetized disc magnet (18).

15. An angular-position magnetic-sensor device according to claim 1, characterized in that the rotor (19, 20) comprises at least two transversely separate parts (19 and 20).

16. An angular-position magnetic-sensor device according to claim 15, characterized in that the two parts (19, 20) forming the rotor are separated by a transversely magnetized parallelepiped magnet (21).

17. An angular-position magnetic-sensor device according to claim 13, characterized in that the two parts (24, 25) of the rotor are separated by an axially magnetized annular magnet (26).

18. An angular-position magnetic-sensor device according to claim 3, characterized in that the rotor (28, 29) comprises at least two parts (28 and 29) separated transversely by a transversely magnetized magnet (32).

19. An angular-position magnetic-sensor device according to claim 18, characterized in that the magnet (32) has parallelepiped shape.